

What is claimed is:

1. A call tracing system for use in a telephony system having nodes in relationship to one another by communication links carrying signaling messages
5 being used to set up voice channels in the telephony system to facilitate calls, the call tracing system comprising at least one element manager coupled to probes (i) monitoring respective communication links for signaling link messages related to a given call and (ii) issuing triggers with a time stamp to the element manager in response to detecting a signaling link message related to the given call.
- 10 2. The call tracing system set forth in claim 1, wherein the element manager broadcasts the trigger with the time stamp to a subset of other probes within the system.
- 15 3. The call tracing system set forth in claim 2, wherein once the probes know how much time has elapsed since the trigger was detected, the probes access respective buffers to look for signaling link messages that were processed before the probes receive the triggers.
- 20 4. The call tracing system set forth in claim 3, wherein messages matching a signaling criteria found in the buffer within a time window related to the time stamp are processed as if seen in real time.
- 25 5. The call tracing system as set forth in claim 4, wherein the element managers broadcast trigger information to one another so that any probe can be connected to any element manager without missing any signaling link messages.

6. A method for call tracing in a telephony system having nodes in relationship to one another by communication links carrying signaling messages being used to set up voice channels in the telephony system to facilitate calls, the method comprising the steps of:

5 entering telephone number criteria to be detected;
detecting message with the phone number criteria;
issuing a trigger upon detecting the telephone number criteria; and
stamping of the of the trigger with a time date stamp.

10 7. The method of claim 6, further comprising the step of broadcasting the trigger message by a respective element manager to at least one other probe.

8. The method of claim 6, further comprising the step of examining the time of the message in storage that arrived prior to the trigger message.

15 9. The method of claim 8, wherein the storage is a buffer.

10. The method of claim 8, further comprising transmitting messages in the storage which arrived prior to the trigger time stamp.

20 11. The method as in claim 6, wherein the step of detecting a message utilizes a probe.

25 12. An apparatus for call tracing in a telephony system having nodes in relationship to one another by communication links carrying signaling messages being used to set up voice channels in the telephony system to facilitate calls,

comprising:

means for entering a phone number criteria to be detected;
means for detecting the phone number criteria; and
means for issuing a trigger time stamp upon detecting the phone number
5 criteria.

13. The apparatus as in claim 12, further comprising means for broadcasting to at least one other probe.

10 14. The apparatus as in claim 12 further comprising means for examining messages for the phone number criteria.

15 15. The apparatus as in claim 14, wherein the messages are examined for similar signaling criteria are identified and processed as if in real time.

16. The apparatus as in claim 15, wherein the criteria is messages that arrived prior to the trigger.

17. The means as in claim 14, further comprising means for transmitting the
20 message that arrived prior to the trigger message.

18. The apparatus as in claim 12, wherein the means for entering is an element manager within the monitoring system.

25 19. The apparatus as in claim 12, wherein the means for issuing is an element manager.

20. The apparatus as in claim 12, wherein the means for detecting is a probe.